

WELL SUMMARY

page 1 of 3Location ID: BLM-1-435 Field Representative(s): Morse/Cooper/KaszubaNorthing: 229564.66 Easting: 403726.68Date Started: 23 September 1987 Date Completed: 13 November 1987Drilling Method: Air-foam rotary Drilling Contractor: LarjonDriller: Jim GowerTotal Depth Borehole: 500' Total Depth Well Casing: 451'Total Depth Surface Casing: 32'Diameter Well Casing: 4" Diameter Surface Casing: 8"Length of Bottom Blank: 5.3'Type of Screen: regular strength 0.02 slotScreen Interval: 435.3' to 445.7'Water First Detected: ND Water Level Open Borehole: 399'Water Level Cased Borehole: 408.8'

Quik-Foam Use:

Estimated Water Use:

Well Casing:

4in x 3ft SCD 40 PVC:	stock SS centralizers:
4in x 5ft SCD 40 PVC:	custom SS centralizers: 1
4in x 10ft SCD 40 PVC:	4"x2' SS locking riser: 1
4in x 20ft SCD 40 PVC:	4" SS locking cap: 1
Total SCD 40 PVC pipe: ft	4" SS female cap: 1
4in x 3ft SCD 5 SS pipe:	
4in x 5ft SCD 5 SS pipe: 1	4in x 5ft SCD 10 SS pipe: 1
4in x 10ft SCD 5 SS pipe: 33	4in x 10ft SCD 10 SS pipe: 10
4in x 20ft SCD 5 SS pipe:	4in x 20ft SCD 10 SS pipe:
Total SCD 5 SS pipe: 335 ft	Total SCD 10 SS pipe: 105 ft

Well Completion:

100# bags 16/40 sand: 5 bags
100# bags 10/20 sand: 6 bags
100# bags 8/14 sand: bags
100# bags 8/20 sand: 5 bags

94# bags cement: 140 bags

5 gal. buckets bentonite: 2 1/4 buckets

50# bentonite powder: 16 bags

Surface Casing:

94# bags cement: bags

50# bags bentonite powder: bags

Pertinent Field Notes:

Previous well names: BLM-4-1, BLM-1-435.3

9/23/87 Spud well, drill 35', drive 32' 8" steel surface casing, drill to 105'
9/24/87 Drill 105'-338', replace drill bit Morse
9/25/87 Drill 338'-470', no water indicated Morse
9/28/87 Drilling fluid and water detected in hole, bail well, water muddy and soapy, took samples, core 470'-480' with 100% recovery, air filters got hot and started smoking, burned up filters, steam clean filter canisters and replace filters and check valves Morse
9/29/87 Ream 470'-480', drill 480'-500', TD at 500' Morse
9/30/87 Geophysical well logging by D. Pearson of S.W. Surveys, water level 422', tried to pull surface casing but casing was stuck, mobilize to 300-B, CP rig goes in for repairs Morse
10/4/87 Water level 398.6' Cooper
10/5/87 Water level 398.5' Cooper
10/9/87 Bail - 100 gallons, water level at 403', samples taken Cooper
11/6/87 Prepare to case well
11/7/87 Start running casing, damage screen and replace, finish backfill at 457.5' with 16/40 sand
11/8/87 Install lower bentonite plug, bridge at 395' after adding 16/40 sand Kaszuba
11/9/87 Try and blow out bridge with tremie and compressed air, possibility of clogging screen with bentonite, pull well casing out and prepare to redrill Kaszuba
11/10/87 Clean borehole to 470', add 16/40 sand to 459.5' Kaszuba

11/11/87 Install bottom plug and run casing, gravel pack around screen, partial bridge of bentonite 429' (?) Kaszuba
11/12/87 Determined no bridge present and added 16/40 sand, upper bentonite plug and 10/20 backfill to 397.1' Cooper
11/13/87 Grouted well with cement with 5% bentonite gel, pad pour and brass cap set Cooper
11/18/87 Water level 419.9'
11/19/87 Start development by bailing 16 gallons Kaszuba
11/30/87 Bail 16.5 gallons Kaszuba
12/3/87 Set pump at 430', burn up pump because it was set above static water level Kaszuba
12/4/87 Water level at 431.4', set pump at 449', problems with wiring, fixed and pump reset, very little water pumped out, let set overnight
12/5/87 Tried to pump but well very tight, decide to bail instead of pump, approximately 2.5 gallons pumped
12/7/87 Bail well when possible to develop well, total gallons bailed and pumped is - 128 , see well development sheet for details